



SEQUENCE LISTING

SEQUENCE LISTING

- (1) GENERAL INFORMATION
(i) APPLICANT: Gallo, Robert C.
Bryant, Joseph
Lunardi-Iskandar, Yanto
(ii) TITLE OF THE INVENTION: Therapeutic Fractions of Sources of hCG
(iii) NUMBER OF SEQUENCES: 37
(iv) CORRESPONDENCE ADDRESS:
(A) ADDRESSEE: Intellectual Property/Technology Law
(B) STREET: P.O. Box 14329
(C) CITY: Research Triangle Park
(D) STATE: NC
(E) COUNTRY: USA
(F) ZIP: 27709
(v) COMPUTER READABLE FORM:
(A) MEDIUM TYPE: Diskette
(B) COMPUTER: IBM Compatible
(C) OPERATING SYSTEM: DOS
(D) SOFTWARE: PatentIn
(vi) CURRENT APPLICATION DATA:
(A) APPLICATION NUMBER: 09/677,152
(B) FILING DATE: 02-OCT-2000
(C) CLASSIFICATION:
(vii) PRIOR APPLICATION DATA:
(A) APPLICATION NUMBER: PCT/US97/11210
(B) FILING DATE: 24-JUN-1998
(A) APPLICATION NUMBER: PCT/US97/11209
(B) FILING DATE: 24-JUN-1998
(A) APPLICATION NUMBER: PCT/US97/11448
(B) FILING DATE: 24-JUN-1998
(A) APPLICATION NUMBER: PCT/US97/11202
(B) FILING DATE: 24-JUN-1998
(A) APPLICATION NO: USSN 09/220,415
(viii) ATTORNEY/AGENT INFORMATION:
(A) NAME: Steven J. Hultquist
(B) REGISTRATION NUMBER: 28,021
(C) REFERENCE/DOCKET NUMBER: 4115-116
(ix) TELECOMMUNICATION INFORMATION:
(A) TELEPHONE: 919-419-9350
(B) TELEFAX: 919-419-9354
(2) INFORMATION FOR SEQ ID NO:1:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 539 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: DNA
(ix) FEATURE:
(A) NAME/KEY: CDS
(B) LOCATION: 26..520
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:
- | | | | | | | | | | | | | |
|------------|------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AGACAAGGCA | GGGGACGCAC | CAAGG | ATG | GAG | ATG | TTC | CAG | GGG | CTG | CTG | CTG | 52 |
| | | | Met | Glu | Met | Phe | Gln | Gly | Leu | Leu | Leu | |
| | | | -20 | | | | | -15 | | | | |
| TTG | CTG | CTG | CTG | AGC | ATG | GGC | GGG | ACA | TGG | GCA | TCC | 100 |
| Leu | Leu | Leu | Leu | Ser | Met | Gly | Gly | Thr | Trp | Ala | Ser | |
| | | | -10 | | | -5 | | | | | 1 | |
| CGG | CCA | CGG | TGC | CGC | CCC | ATC | AAT | GCC | ACC | CTG | GCT | 148 |
| Arg | Pro | Arg | Cys | Arg | Pro | Ile | Asn | Ala | Thr | Leu | Ala | |
| | | | 10 | | | | 15 | | | | 20 | |
| GGC | TGC | CCC | GTG | TGC | ATC | ACC | GTC | AAC | ACC | ATC | TGT | 196 |
| Gly | Cys | Pro | Val | Cys | Ile | Thr | Val | Asn | Thr | Thr | Ile | |
| | | | 25 | | | | 30 | | | | 35 | |
| TGC | CCC | ACC | ATG | ACC | CGC | GTG | CTG | CAG | GGG | GTC | CTG | 244 |
| Cys | Pro | Thr | Met | Thr | Arg | Val | Leu | Gln | Gly | Val | Leu | |
| | | | 40 | | | 45 | | | | | 50 | |
| CAG | GTG | GTG | TGC | AAC | TAC | CGC | GAT | GTG | CGC | TTC | GAG | 292 |
| Gln | Val | Val | Cys | Asn | Tyr | Arg | Asp | Val | Arg | Phe | Glu | |
| | | | 55 | | | 60 | | | | | 65 | |

SEQUENCE LISTING

CCT GGC TGC CCG CGC GGC GTG AAC CCC GTG GTC TCC TAC GCC GTG GCT 340
 Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala 85
 70
 CTC AGC TGT CAA TGT GCA CTC TGC CGC CGC AGC ACC ACT GAC TGC GGG 388
 Leu Ser Cys Gln Cys Ala Leu Cys Arg Arg Ser Thr Thr Asp Cys Gly 100
 90
 GGT CCC AAG GAC CAC CCC TTG ACC TGT GAT GAC CCC CGC TTC CAG GAC 436
 Gly Pro Lys Asp His Pro Leu Thr Cys Asp Asp Pro Arg Phe Gln Asp 115
 105
 TCC TCT TCC TCA AAG GCC CCT CCC CCC AGC CTT CCA AGC CCA TCC CGA 484
 Ser Ser Ser Ser Lys Ala Pro Pro Pro Ser Leu Pro Ser Pro Ser Arg 130
 120
 CTC CCG GGG CCC TCG GAC ACC CCG ATC CTC CCA CAA TAAAGGCTTC 530
 Leu Pro Gly Pro Ser Asp Thr Pro Ile Leu Pro Gln 145
 135
 TCAATCCGC 539

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 165 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Met Glu Met Phe Gln Gly Leu Leu Leu Leu Leu Leu Ser Met Gly -5
 -20
 Gly Thr Trp Ala Ser Lys Glu Pro Leu Arg Pro Arg Cys Arg Pro Ile 10
 1
 Asn Ala Thr Leu Ala Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr 25
 15
 Val Asn Thr Thr Ile Cys Ala Gly Tyr Cys Pro Thr Met Thr Arg Val 40
 30
 Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn Tyr Arg 60
 45
 Asp Val Arg Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val 75
 65
 Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser Cys Gln Cys Ala Leu 90
 80
 Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu 105
 95
 Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro 120
 110
 Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr 140
 125
 Pro Ile Leu Pro Gln 145

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 14 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln 10
 1
 5

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 10 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Leu Gln Gly Val Leu Pro Ala Leu Pro Gln 10
 1
 5

(2) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 7 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

SEQUENCE LISTING

- (ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:
Gly Val Leu Pro Ala Leu Pro
1 5
- (2) INFORMATION FOR SEQ ID NO:6:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 13 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:
Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys
1 5 10
- (2) INFORMATION FOR SEQ ID NO:7:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 11 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: circular, linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:
Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser
1 5 10
- (2) INFORMATION FOR SEQ ID NO:8:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 13 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro
1 5 10
- Calif*
cont
- (2) INFORMATION FOR SEQ ID NO:9:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 12 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:
Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro
1 5 10
- (2) INFORMATION FOR SEQ ID NO:10:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 11 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:
Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro
1 5 10
- (2) INFORMATION FOR SEQ ID NO:11:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 10 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:
Val Leu Gln Gly Val Leu Pro Ala Leu Pro
1 5 10
- (2) INFORMATION FOR SEQ ID NO:12:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:
Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys
1 5 10
- (2) INFORMATION FOR SEQ ID NO:13:
(i) SEQUENCE CHARACTERISTICS:

SEQUENCE LISTING

- (A) LENGTH: 9 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:
Leu Gln Gly Val Leu Pro Ala Leu Pro
1 5
- (2) INFORMATION FOR SEQ ID NO:14:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 8 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:
Gln Gly Val Leu Pro Ala Leu Pro
1 5
- (2) INFORMATION FOR SEQ ID NO:15:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 10 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:
Leu Gln Gly Val Leu Pro Ala Leu Pro Gln
1 5 10
- (2) INFORMATION FOR SEQ ID NO:16:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 11 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:
Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val
1 5 10
- (2) INFORMATION FOR SEQ ID NO:17:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 12 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:
Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val
1 5 10
- (2) INFORMATION FOR SEQ ID NO:18:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:
Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn
1 5 10
- (2) INFORMATION FOR SEQ ID NO:19:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 8 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:
Gly Val Leu Pro Ala Leu Pro Gln
1 5
- (2) INFORMATION FOR SEQ ID NO:20:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 9 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:
Gly Val Leu Pro Ala Leu Pro Gln Val

SEQUENCE LISTING

- 1 5
- (2) INFORMATION FOR SEQ ID NO:21:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 10 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:
- Gly Val Leu Pro Ala Leu Pro Gln Val Val
1 5 10
- (2) INFORMATION FOR SEQ ID NO:22:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 12 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:
- Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn
1 5 10
- (2) INFORMATION FOR SEQ ID NO:23:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 98 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:
- Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn Tyr Arg Asp Val Arg
1 5 10 15
Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Leu Asn Pro Val
20 25 30
Val Ser Tyr Ala Val Ala Leu Ser Cys Gln Cys Ala Leu Cys Arg Arg
35 40 45
Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu Thr Cys Asp
50 55 60
Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro Pro Pro Ser
65 70 75 80
Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr Pro Ile Leu
85 90 95
Pro Gln
- (2) INFORMATION FOR SEQ ID NO:24:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 88 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:
- Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro
1 5 10 15
Arg Gly Leu Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser Cys Gln
20 25 30
Cys Ala Leu Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp
35 40 45
His Pro Leu Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser
50 55 60
Lys Ala Pro Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro
65 70 75 80
Ser Asp Thr Pro Ile Leu Pro Gln
85
- (2) INFORMATION FOR SEQ ID NO:25:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 37 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: peptide
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:
- Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro
1 5 10 15
Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr

SEQUENCE LISTING

- 20
Pro Ile Leu Pro Gln
35
- (2) INFORMATION FOR SEQ ID NO:26:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 14 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: circular
(ii) MOLECULE TYPE: peptide
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:
Cys Leu Gln Gly Val Leu Pro Ala Leu Pro Gln val val Cys
1 5 10
- (2) INFORMATION FOR SEQ ID NO:27:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 10 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: protein
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:
Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser
1 5 10
- (2) INFORMATION FOR SEQ ID NO:28:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 11 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: protein
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:
Gly val Leu Pro Ala Leu Pro Gln val val Cys
1 5 10
- (2) INFORMATION FOR SEQ ID NO:29:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 12 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: protein
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:
Leu Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser
1 5 10
- (2) INFORMATION FOR SEQ ID NO:30:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 24 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: protein
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:
Leu Gln Gly val Leu Pro Ala Leu Pro Gln val val Cys Thr Cys Asp
1 5 10 15
- (2) INFORMATION FOR SEQ ID NO:31:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 23 amino acids
(B) TYPE: amino acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(ii) MOLECULE TYPE: protein
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:
Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Leu Gln Gly val Leu Pro
1 5 10 15
- (2) INFORMATION FOR SEQ ID NO:32:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 23 amino acids

SEQUENCE LISTING

(B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (ii) MOLECULE TYPE: protein
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:
 Gly val Leu Pro Ala Leu Pro Gln val val Cys Leu Thr Cys Asp Asp
 1 5 10 15
 Pro Arg Phe Gln Asp Ser Ser
 20

(2) INFORMATION FOR SEQ ID NO:33:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 34 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (ii) MOLECULE TYPE: protein
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:
 Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys Glu Gly
 1 5 10 15
 Cys Pro val Cys Ile Thr val Asn Thr Thr Ile Cys Ala Gly Tyr Cys
 20 25 30
 Pro Thr

Cal
 (2) INFORMATION FOR SEQ ID NO:34:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 20 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (ii) MOLECULE TYPE: protein
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:
 Gln Gly val Leu Pro Ala Leu Pro Gln val val Cys Asn Tyr Arg Asp
 1 5 10 15
 val Arg Phe Glu
 20

(2) INFORMATION FOR SEQ ID NO:35:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 9 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (ii) MOLECULE TYPE: protein
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:
 val Leu Pro Ala Leu Pro Gln val val
 1 5

(2) INFORMATION FOR SEQ ID NO:36:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 14 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (ii) MOLECULE TYPE: protein
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:
 Cys val Ala Gln Pro Gly Pro Gln val Leu Leu val Leu Cys
 1 5 10

(2) INFORMATION FOR SEQ ID NO:37:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 15 amino acids
 (B) TYPE: amino acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (ii) MOLECULE TYPE: protein
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:
 Cys val Ala Gln Gly val Leu Pro Ala Leu Pro Gln val val Cys
 1 5 10 15